

Notice of Allowability

Application No.

09/800,895

Examiner

Erick Rekstad

Applicant(s)

HATANO ET AL.

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed March 7, 2005.
2. ☒ The allowed claim(s) is/are 2-4, 7-9, 11-13 and 16-20.
3. ☒ The drawings filed on 08 March 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

CHRIS KELLEY

SUPERVISORY PATENT EXAMINER

DETAILED ACTION

This is an allowance for application no. 09/800,895 in response to amendment filed on March 7, 2005 and RCE filed on January 21, 2005 in which claims 2-4, 7-9, 11-13 and 16-20 are presented for examination.

Allowable Subject Matter

Claims 2-4, 7-9, 11-13 and 16-20 are allowed.

The following is an examiner's statement of reasons for allowance:

The claims pertain to a novel video coding device that the examiner was unable to find in several prior art searches.

In Figure 1, US Patent 5,717,641 to Ando teaches the method and device comprising: Coding means for coding an external input signal in a macroblock unit (1); a storing means for storing a code output from said coding means (2); and code volume control means (6) for controlling transfer of said code stored in said storing means to data output means based on a code volume of said code obtained by said coding means such that a length of a video packet constituted by said code is a predetermined length or less (Col 2 Lines 7-26 and 49-67, Col 3 Lines 1-41, Fig. 1). Ando teaches the output of the device going to a receiving circuit in a VIDEO-ON-DEMAND system (Col 1 Lines 15-16, Col 2 Lines 21-26). Ando does not teach the use of a second storing means. It would be obvious to one skilled in the art at the time of the invention that a video receiver would contain an input buffer. It would have been obvious to one skilled in the art at the time of the invention that the buffer of the video receiver would be the second storing means in the system.

Ando further teaches a code volume controller controls storage of a stuffing in said second storing means based on a minimum code volume obtained for each unit image constituted by a video packet which is required for coding said unit image (Col 2 Lines 15-20, Col 3 Lines 5-19 and Lines 42-60, Col 4, Figs 1 and 2A-2C). Note: Col 4 Lines 52-58 where dummy data is added in order to meet the minimum required fixed data rate. Ando teaches a system for maintaining a constant bit rate for a VOD system (Col 1 Lines 10-16 and 58-60). It is well known in the art to use MPEG-2 for VOD systems. It would have been obvious to one of ordinary skill in the art at the time of the invention to use MPEG-2 encoding with the system of Ando, as MPEG-2 is a common encoding format for VOD systems. Ando is silent on the use of VOPs. Ando is further silent on the code volume controller calculating a present code volume (Sc) for each video object (VOP) and deciding whether a stuffing is to be inserted into said video packet or a new video packet constituted, based on a relationship between the present code volume (Sc) and a minimum code volume ($Tmin$).

US Patent 6,289,129 to Chen teaches a coding device that uses a simulation of the decoding buffer to control the bitstream to prevent overflow and underflow (Col 12 Lines 7-25). Chen further teaches the coding device comprises video data that includes intraframe, prediction and bi-directional video objects planes (VOPS) (Col 13 Lines 40-43). Chen further teaches the controlling of the bitstream by adding stuffing bits (Col 13 Lines 44-52, Col 14 Lines 7-11). Chen further teaches that the VBV buffer is the reverse of the decoder buffer where a VBV buffer underflow is equivalent to a decoder buffer overflow (Col 11 Lines 49-56). Chen further teaches a coded picture is equivalent

to a VOP and MPEG-2 has a constant frame period (Col 7 Lines 36-52. It would have been obvious to one of ordinary skill in the art at the time of the invention that the system of Ando uses VOPs as VOPs are equivalent to coded pictures as taught by Chen. Chen is silent on the code volume controller calculating a present code volume (Sc) for each video object (VOP) and deciding whether a stuffing is to be inserted into said video packet or a new video packet constituted, based on a relationship between the present code volume (Sc) and a minimum code volume ($Tmin$).

The use of a code volume controller, calculating a present code volume (Sc) for each video object (VOP) and deciding whether a stuffing is to be inserted into said video packet or a new video packet constituted, based on a relationship between the present code volume (Sc) and a minimum code volume ($Tmin$), taken with the other features of the claims reads over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 6,608,628 to Ross et al.

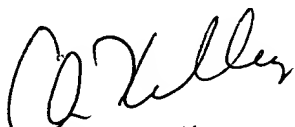
US Patent 6,415,398 to Kikuchi et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erick Rekstad whose telephone number is 571-272-7338. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Erick Rekstad
Examiner
AU 2613
(571) 272-7338
erick.rekstad@uspto.gov



CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600